

85-222317/36

A41 E13 (A60)

EROK = 12.04.83  
SU 1139.722-A

REVOKHTINSK PLAST

12 04 83 SU 579406 (15 02 85) C07c-07/20

Styrene polymerisation inhibiting - by introduction of  
bis (tetra-methyl-piperidyl-1-oxyl) adipamide

C85-096924

Thermopolymerisation of styrene during  
rectification, prodn. of polystyrene, styrene copolymers or  
butadiene-styrene rubber is inhibited by the introduction  
(0.05-0.01% the wt. of styrene), of 'Nitroksil-6' (RTM: N.N'-  
bis(2,2,6,6-tetramethyl-4-piperidyl-1-oxyl)adipamide (BTPA)).

(1) is obtd. by allowing the following mixt to stand for  
10 days at room temp: 84.4 g (0.2 g. mol) BTPA 250 ml  
isopropanol; 18 g trilon-B; 18 g sodium tungstate and 180 ml  
30% hydrogen peroxide.

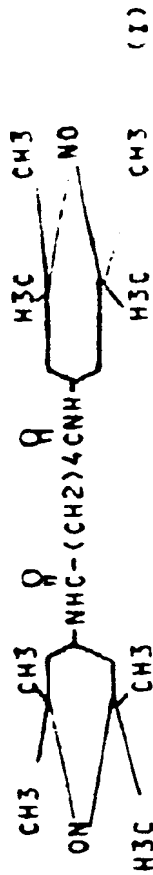
The reaction mass is filtered to remove the catalyst and the  
solvent partially evapd. After cooling, the ppt is filtered,  
washed in isopropanol, cooled to 0°C and dried. Yield 74.58 g  
(82.5% of theoretical) of  $C_{24}H_{40}N_4O_8$ , an orange, crystalline  
powder, m.pt. 240-241°C, mol. wt. 460, 7 soluble in styrene,  
aliphatic alcohols and chloroform.

A(1.D3, 2.C)(E/7.D5)

756

No polymer is noted after 10 hrs. heat treatment with a concn of  
0.05 wt. % Nitroksil-6, 15.10 wt. %, mol. wt. 148929 is noted after 20  
hrs.

ADVANTAGE - Practically complete elimination of polymer  
formation and clogging of equipment 10-fold redn. in the amt of  
inhibitor reqd. Loss of styrene, due to the formation of polymers and  
their removal from the system via still residues, is reduced 10-fold  
Bul. 6/15.2.85. (4pp Dwg.No.0/0)



M/40069-

=SU 1139-2

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